RINGKASAN

Limbah baglog jamur merang mulai dimanfaatkan menjadi sesuatu yang mempunyai nilai ekonomi seperti kompos.Penambahan kompos tersebut dilakukan sebagai upaya meningkatkan ketersediaan N, memperbaiki kualitas tanah dan memperbaiki sifat fisik, kimia dan biologi tanah ultisol.Penelitian ini bertujuan untuk mengkaji keefektifan aplikasi kompos limbah baglog jamur merang dengan dekomposer starter alami, EM4 serta kompos tanpa dekomposer pada berbagai dosis budidaya selada.Tujuan yang diharapkan dari kegiatan penelitian ini adalah: 1). Menemukan teknologi pengomposan limbah baglog jamur merang dengan dekomposer starter alami dan EM4. 2). Menemukan perlakuan terbaik untuk peningkatan kesuburan tanah Ultisol seperti jumlah populasi total mikroba, C-Organik, N-Total dan C/N rasio. 3). Menemukan perlakuan terbaik untuk pertumbuhan, hasil dan kadar N jaringan selada.

Penelitian dilaksanakan pada bulan November 2016 sampai April 2017 di Laboratorium dan *screen house* Agroekologi, Fakultas Pertanian, Universitas Jenderal Soedirman. Penelitian ini menggunakan Rancangan Acak Kelompok nonfaktorial dengan tiga ulangan yaitu P= Pupuk urea 100 kg/ha, SP-36 100 kg/ha, KCl 80 kg/ha (kontrol NPK); P0= Tanpa pupuk NPK dan kompos (kontrol tanah); P1= kompos 25 t/ha tanpa dekomposer; P2= kompos 50 t/ha tanpa dekomposer; P3= kompos 100 t/ha tanpa dekomposer; P4= kompos25 t/ha dekomposer starter alami; P5= kompos 50 t/ha dekomposer starter alami; P6= kompos 100 t/ha dekomposer starter alami; P7= kompos 25 t/ha dekomposer EM4; P8= kompos 50 t/ha dekomposer EM4; P9= kompos 100 t/ha dekomposer EM4. Variabel yang diamati antara lain Populasi total mikroba, C-Organik, N-Total, C/N rasio pada tanah, tinggi tanaman, jumlah daun, luas total daun, luas satu daun, bobot segar dan serapan N jaringan selada.

Hasil penelitian menunjukkan bahwa teknologi pengomposan terbaik yaitu kompos dengan dekomposer starter alami berdasarkan beberapa variabel penilaian kualitas kompos. Perlakuan kompos, aplikasi NPK dan tanah berpengaruh nyata terhadap C-Organik, N-Total, jumlah daun, dan bobot segar tanaman, sedangkan hasil menunjukkan bahwa perlakuan kompos hanya terhadap aplikasi NPK berpengaruh nyata terhadap luas total daun, tetapi tidak berpengaruh nyata terhadap total mikroba, C/N rasio, tinggi tanaman, luas satu daun dan N jaringan selada pada pengamatan 30 hari setelah tanam (HST). Pengaruh pemberian kompos pada berbagai perlakuan terhadap pertumbuhan dan hasil selada belum memberikan hasil yang lebih tinggi dibandingkan kontrol NPK seperti tinggi tanaman, luas daun, bobot segar dan kadar N jaringan selada. Produksi Selada pada penelitian ini yaitu 442,3 g dengan jumlah 33 tanaman dan luas lahan 40425 cm^2. Jika dikonversikan yaitu 0,4423 kg/4,0425 m^2 atau sekitar 1,09 t/ha.

SUMMARY

Baglog waste mushroom began to be used to be something that has an economic value as compost.The addition of compost is done in an effort to increase the availability of N, improve soil quality and improve physical, chemical and biological properties of ultisol soil. This study aims to examine the effectiveness of composting application of mushroom baglog with natural starter decomposer, EM4 and compost without decomposer at a various dosage of lettuce cultivation. The expected objectives of this research activity are : 1). Discovering waste composting technology baglog mushroom with natural starter decomposer and EM4 2). Find the best treatment for soil fertility improvement Ultisols such as total microbial population, C-Organic, N-Total and C/N ratio 3). Find the best treatment for growth, yield and N absorbtion of lettuce tissue.

The study was conducted from November 2016 to April 2017 at the Laboratory and screen house of Agroecology, Faculty of Agriculture, University of Jenderal Soedirman. This research used nonfactorial group randomized block design with three replications: P = 100 kg / ha, SP-36 100 kg / ha, KCl 80 kg / ha (NPK control); P0 = Without NPK fertilizer and compost (soil control); P1 = 25 t / ha compost without decomposer; P2 = compost 50 t / ha without decomposer; P3 = compost 100 t / ha without decomposer; P4 = compost 25 t / ha natural starter decomposer; P5 = compost 50 t / ha natural starter decomposer; P6 = compost 100 t / ha natural starter decomposer; P7 = compost 25 t / ha decomposer EM4; P8 = compost 50 t / ha decomposer EM4; P9 = compost 100 t / ha decomposer EM4. The variables observed were total microbial population, C-Organic, N-Total, C / N ratio on soil, plant height, number of leaves, total leaf area, single leaf area, fresh weight and N absorbtion of lettuce tissue.

The results showed that the best composting technology is compost with natural starter decomposer based on several variables of compost quality assessment. The compost treatment, NPK and soil application had a significant effect on C-Organic, N-Total, the number of leaves, and fresh weight of the plant, whereas the result showed that the compost treatment only on the NPK application significantly affected the leaf area but no significant effect on total microbial, C/N ratio, plant height, and N absorbtionof Lettuce tissue on observation 30 days after planting (HST). The effect of composting on various treatments on growth and lettuce yields has not resulted in higher yields than NPK controls such as plant height, leaf area, fresh weight and N absorbtion of Lettuce tissue. Lettuce production in this study is 442,3 g with the amount of 33 plants and the width of area40425 cm^2. If converted is0,4423 kg /4,0425 m^2 or about 1,09t/ha.